

WHAT IS CLAIMED IS:

1. A position control device of a position control motor, comprising:

a position detection portion detecting a motor rotor position of a motor for position control, such as a brushless motor or a stepping motor;

first and second control portions comparing a position detection signal from the position detection portion and a command position signal, and based on that positional deviation signal, outputting a signal corresponding to a current to be supplied to a winding of the motor;

first and second distribution adjusting portions distributing the signals output from the first and second control portions with a set distribution ratio or distribution rate;

a signal synthesis portion for synthesizing by vector addition the vectors of the output signals distributed by the first and second distribution adjustment portions; and

an amplification portion for receiving the output signal synthesized by the signal synthesis portion and outputting the current to be supplied to the motor winding;

wherein the position of the motor is controlled by the command position signal;

wherein when the position deviation signal is within

an electrical angle of 90° , the first control portion outputs a sine wave data signal corresponding to the command position signal from a sine wave table, and when the position deviation signal exceeds an electrical angle of 90° , the first control portion outputs a sine wave data signal, from the sine wave table, that excites the motor such that the motor is at a stable excitation point at an electrical angle of 90° ahead of the rotor position; and

wherein the second control portion serves as a servo control portion or a feedback control portion and outputs the output signal, and the amplification portion increases or decreases the current to be supplied to the motor winding in accordance with a load torque applied to the motor.

2. The position control device of a position control motor according to claim 1,

wherein the first control portion comprises:

a command position counter, which counts the pulses of the command position signal;

a rotor position counter, which counts the pulses of the position detection signal from the position detection portion;

a phase calculation portion, which receives the pulse signals from both counters and outputs an address of the

sine wave table based on a deviation signal between the two pulse signals; and

the sine wave table for outputting a sine wave data signal in correspondence to the address signal from the phase calculation portion;

wherein when the deviation signal is an electrical angle within 90° , the phase calculation portion outputs the command position pulse signal, and when the deviation signal is an electrical angle exceeding 90° , the phase calculation portion outputs corrects the position detection pulse signal of the motor by an electrical angle of 90° and outputs that position detection pulse signal.